



# Nuclear Material Import/Export Process and Requirements–10 CFR 110

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May 22, 2013

# Objectives

- ▶ Describe NRC roles and responsibilities
- ▶ Review 10 CFR Part 110 requirements
- ▶ Summarize criteria and decision making processes
- ▶ Provide guidance to find more information



# Legal Basis

- ▶ Atomic Energy Act of 1954
- ▶ Nuclear Non-Proliferation Act of 1978
- ▶ Treaties, Conventions and Agreements including:
  - Nuclear Non-Proliferation Treaty
  - International Atomic Energy Agency (IAEA) Safeguards
  - Conventions: Nuclear Safety; Waste and Spent Fuel; Physical Protection; Early Notification; Assistance; and Liability
  - 123 Agreements for peaceful nuclear cooperation

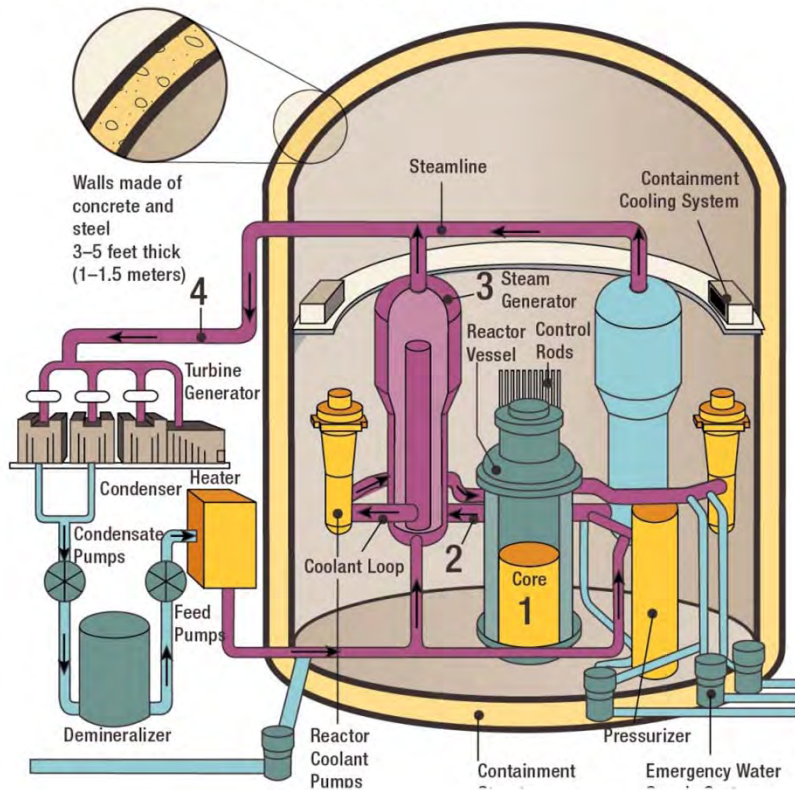
# NRC Jurisdiction

- ▶ Exports: reactors; fuel cycle facilities; components; nuclear grade graphite for nuclear end use; deuterium; source, special nuclear and byproduct materials including when contained in spent fuel or radioactive waste
- ▶ Imports: reactors; fuel cycle facilities; source, special nuclear and byproduct materials including when contained in spent fuel or radioactive waste

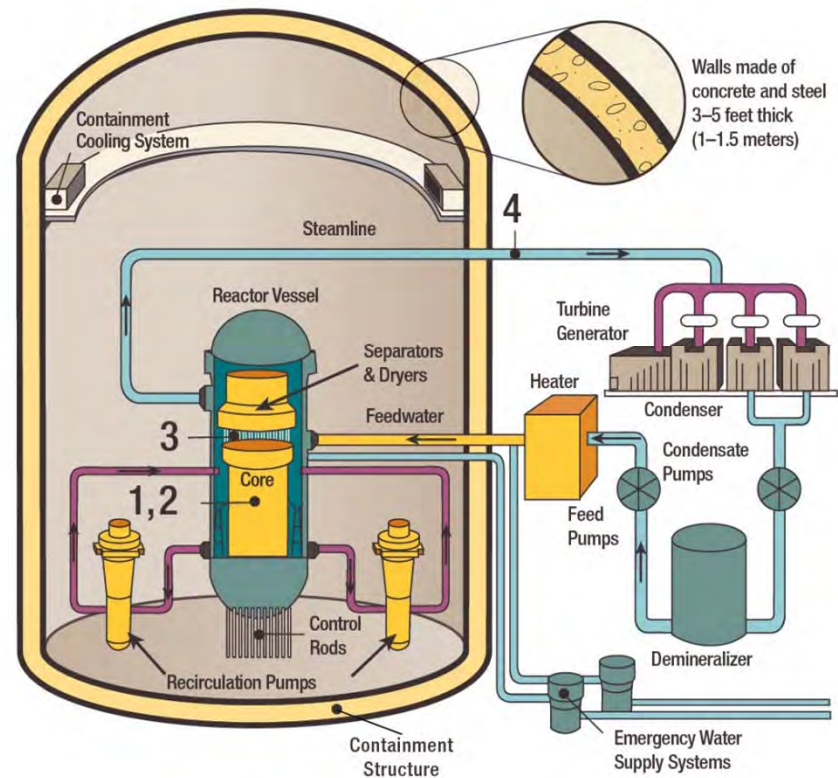


# Nuclear Reactor Equipment

**Typical Pressurized-Water Reactor**



**Typical Boiling-Water Reactor**



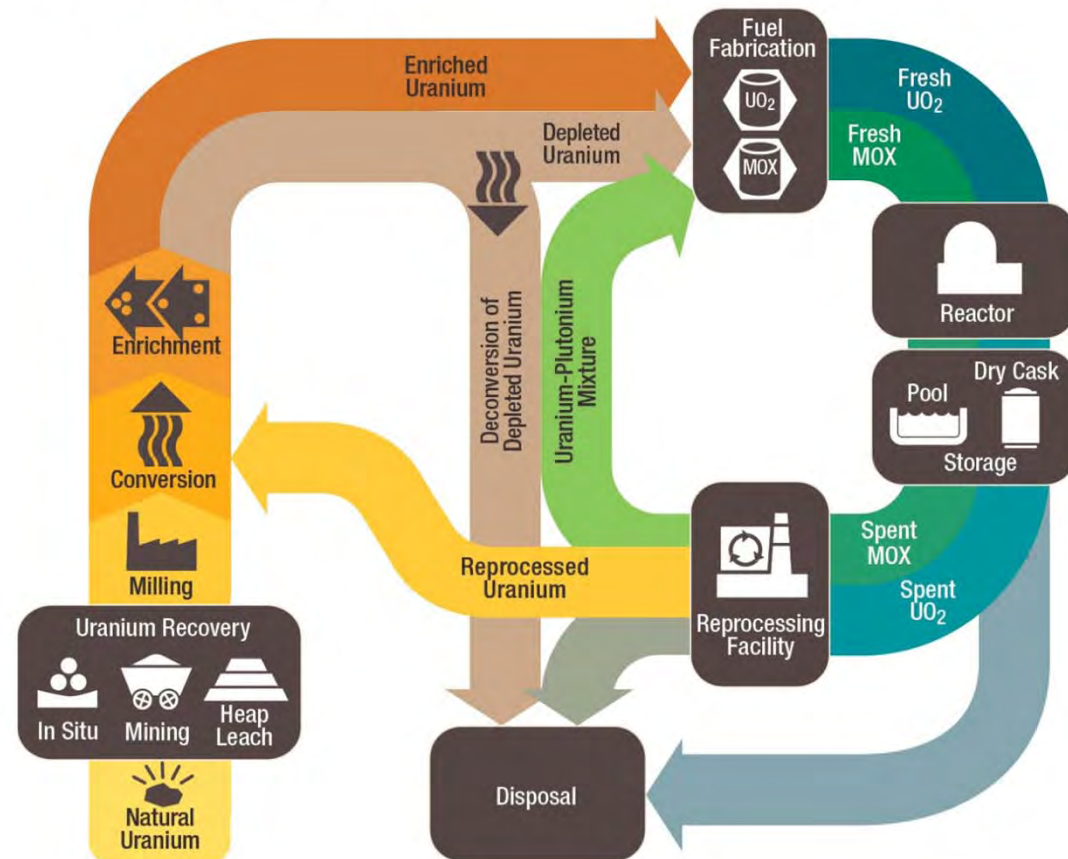
## Part 110 Appendix A

### Illustrative List of Reactor Equipment

- ▶ Items within or attached directly to the reactor vessel
- ▶ Equipment which controls the level of power in the core
- ▶ Components which normally contain or come in direct with or control the primary coolant of the reactor core

# Fuel Cycle Facilities & Especially Designed or Prepared Components

The Nuclear Fuel Cycle







# Part 110 Appendix P Radioactive Materials

- ▶ In 2005, Part 110 was amended to address the IAEA Code of Conduct on the Safety and Security of Radioactive Sources and its Import/ Export Guidance
- ▶ 16 radionuclides previously authorized for export or import under general license became subject to specific licensing
- ▶ In 2010, Part 110 was amended to allow U.S. parties to import under general license if they are appropriately authorized domestically



# Part 110 Appendix P Radioactive Materials

- ▶ If a device or a source for use in a device contains Appendix P radionuclides (Am-241, Am-241/Be, Cf-252, Cm-244, Co-60, Cs-137, Gd-153, Ir-192, Pu-238, Pu-239/Be, Pm-147, Ra-226, Se-75, Sr-90, Tm-170 or Yb-169) a specific NRC export license may be required





# If Subject to NRC Jurisdiction

- ▶ All exports and imports of NRC–controlled commodities (materials and equipment) must be authorized by either:
  - An NRC general export or import license or
  - An NRC specific export or import license or
  - An exemption from NRC requirements for a specific or a general license which may be granted in response to an application requesting an exemption or issued on NRC’s initiative



# NRC General Licenses

- ▶ Are issued in 10 CFR 110 after rulemaking and coordination with the Executive Branch
- ▶ Are not exemptions (or NLRs)
- ▶ Authorize exports (10 CFR 110.21–110.26 ) of small quantities of uranium, plutonium, tritium and minor reactor components to specified countries
- ▶ Authorize imports (10 CFR 110.27) of major reactor components, source, special nuclear and/or byproduct materials to authorized recipients
- ▶ Require maintaining records and, for certain exports, filing annual reports to the NRC

# NRC General Licenses

- ▶ Do not authorize exports to embargoed countries, i.e., a specific license is required for exports to:

Cuba

Iran

Iraq

North Korea

Syria

Sudan

- ▶ Authorize limited exports to restricted destinations – a specific license may be required:

Afghanistan

Andorra

Angola

Burma

Djibouti

India

Israel

Libya

Pakistan

South Sudan





## Applications for Specific Licenses NRC Form 7

- ▶ Name/address of applicant for export/import license
- ▶ Name/address of other U.S. parties, e.g., supplier of material if different from applicant
- ▶ Country of origin and any other countries that processed the commodity prior to U.S. import
- ▶ Names/addresses of all intermediate or ultimate consignees
- ▶ Chemical or physical form of equipment or material and description of use for each consignee
- ▶ Dates of proposed first and last shipment



# NRC Specific Licenses – Application Review Process

- ▶ All NRC Form 7 applications made public in ADAMS
- ▶ Some require Federal Register notices
- ▶ Interested parties have up to ~30 days to respond
- ▶ Processing fee ranging from \$1,400 to \$17,800) depends on level of review required (proliferation significance of commodity)
  - Most require interacting with foreign governments and some form of NRC Program Office review
  - Some require review by interested Executive Branch agencies, coordinated by Department of State
  - Some require review and approval by Commissioners



# Which Applications Require Federal Register Notices?

- ▶ Exports of:
  - A production or utilization facility
  - Five effective kg or more of plutonium, high enriched uranium or uranium-233
  - 10,000 kg or more of heavy water
  - Nuclear grade graphite for nuclear end use
- ▶ Exports and imports of radioactive waste



# How Are Processing Fees Established?

- ▶ NRC must recover most of its budget through fees assessed to applicants and licensees
- ▶ Fees for facilities, materials, import and export licenses are found in [10 CFR 170](#) and [10 CFR 171](#)
- ▶ Fees are evaluated and updated through annual rulemaking
- ▶ If Commission review is required (10 CFR 110.40), the current processing fee is \$17,800
- ▶ If Executive Branch review is required (10 CFR 110.41), the current processing fee is \$9,600





# NRC Specific Licenses

- ▶ It can take anywhere from 40 days to 4 months or more to coordinate internal and interagency reviews
- ▶ Applications may be withdrawn or returned without action
- ▶ Licenses may be issued or denied
- ▶ Licenses issued:
  - Are signed by OIP Deputy Director
  - Name parties, identify end users and end uses
  - Typically specify quantities and set expiration dates
  - Can be amended and renewed prior to expiration date



# NRC Specific Licenses – Amendments

- ▶ What is considered a minor amendment?
- ▶ What is not considered a minor amendment?
- ▶ When must you apply for an amendment?



## Criteria for “Major” Exports (XSNM, XSOU, XR)

- ▶ Agreement for Cooperation (123 Agreement)
- ▶ Full-scope IAEA safeguards in recipient non-nuclear weapon states (NNWS)
- ▶ USG must obtain assurances from the foreign government on case-by-case basis that material or equipment will be made subject to 123 Agreement with respect to:
  - No nuclear explosive use or R&D on any nuclear explosive device
  - Adequate physical security will be maintained
  - No retransfer or alteration in form (reprocessing) without prior USG consent
- ▶ Not inimical to common defense and security
- ▶ For XR, not an unreasonable risk to the public health and safety of the U.S.

## Criteria for “Minor” Exports (XCOM, XMAT)

- ▶ USG must obtain assurances from the foreign government on case-by-case basis that:
  - IAEA (full-scope) safeguards will apply in NNWS
  - No nuclear explosive use or R&D on such device
  - No retransfer without prior USG consent
- ▶ Not inimical to common defense and security



# AES Information

- ▶ License Codes required when exporting under NRC specific or general licenses
  - ▶ N01 – NRC specific licenses
    - Must also enter specific license number
  - ▶ N02 – NRC general licenses
    - Must also enter CFR citation for 10 CFR 110 general license used to authorize the export



# For Additional Information

- ▶ <http://www.nrc.gov>
- ▶ <http://www.nrc.gov/about-nrc/ip/export-import.html>
- ▶ <http://www.nrc.gov/about-nrc/ip/faq.html>
- ▶ <http://www.nrc.gov/reading-rm/doc-collections/cfr/part110/>
- ▶ <http://www.nrc.gov/reading-rm/doc-collections/cfr/part170/part170-0021.html>
- ▶ <http://www.nrc.gov/reading-rm/doc-collections/cfr/part170/part170-0031.html>

# Final Thoughts

➤ Communicate

➤ Communicate

➤ Communicate



To contact the NRC  
Office of International  
Programs

301-415-1780

THANK YOU!!!

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